



United States
Environmental
Protection
Agency

Office of Public Affairs
Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604

Illinois • Indiana
Michigan • Minnesota
Ohio • Wisconsin

Public Meeting

U.S. EPA is sponsoring a meeting for the residents of West Chester and the surrounding communities. U.S. EPA will present information concerning the remedial investigation, baseline risk assessment, feasibility study, and the preferred cleanup plan. U.S. EPA representatives will be present at the meeting and will accept your comments on the cleanup alternatives and the recommended plan. Ohio EPA representatives will also appear at the meeting.

Date: Wednesday, May 20, 1992

Time: 7:00 pm

Place: Union Township Hall
Union Twp. Administrative Bldg.
9113 Cincinnati-Dayton Road
West Chester, Ohio

U.S. EPA Completes Investigation and Evaluation of Cleanup Alternatives for the Skinner Landfill Site

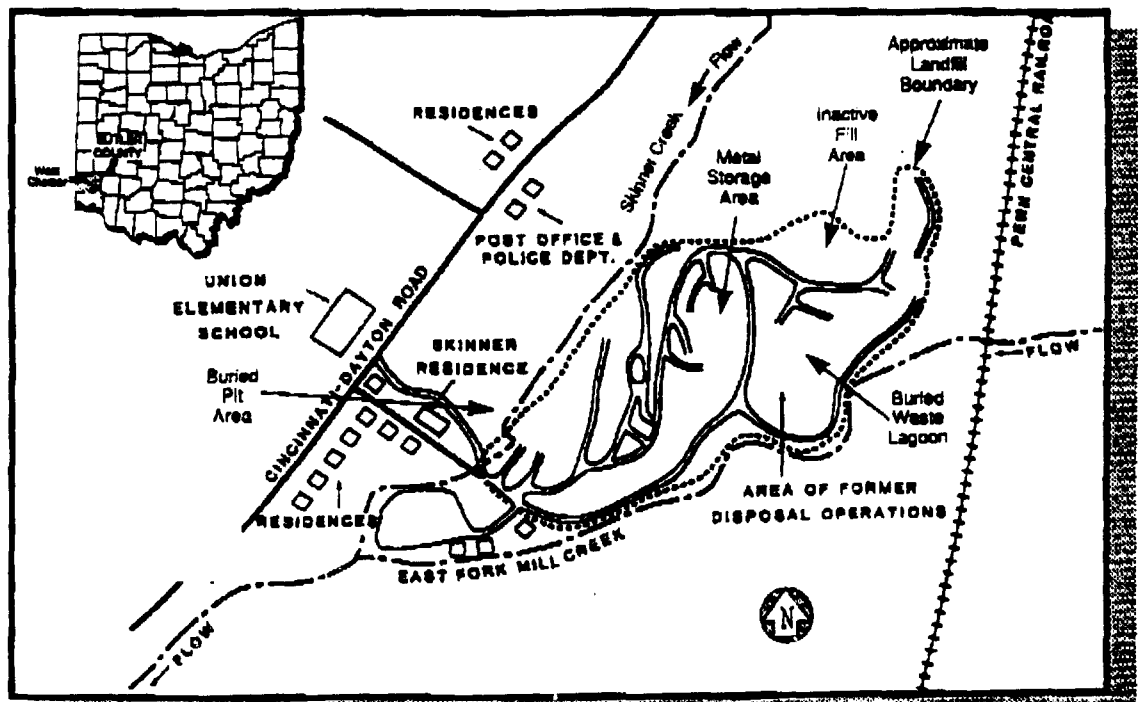
West Chester, Ohio

April 1992

INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) and its contractors have completed a **Remedial Investigation (RI)**, **Baseline Risk Assessment (RA)**, and **Feasibility Study (FS)** of the Skinner Landfill site. U.S. EPA has determined that the ground water, surface water, and soil on the Skinner site contain concentrations of **volatile organic compounds (VOCs)**, **chlorinated semi-volatile organic compounds (SVOCs)**, **pesticides**, **polychlorinated biphenyls (PCBs)**, and **metals**. The results of the Skinner Landfill RI also indicate that migration of these contaminants has been limited due to the hydrogeology of the site and the fact that the contaminants are largely immobile, bind tightly to the clay-like soils, and have a low solubility in water. The most important area of concern identified at the site is a buried waste lagoon located within the landfill near the southeastern edge of the site, which contains buried 55-gallon drums and other wastes. U.S. EPA is primarily concerned with preventing or controlling the potential for exposure to people directly on and nearby the Skinner property and with ensuring that those contaminants found on the site do not move off-site at any point in the future. As this fact sheet will describe, U.S. EPA has now evaluated a number of treatment and containment alternatives for the Skinner Landfill site.

Skinner Landfill
Site Location
Map



THE SITE AND ITS HISTORY

The Skinner Landfill is located approximately 15 miles north of Cincinnati, Ohio in Butler County. The site lies one-half mile south of the intersection of I-75 and Cincinnati-Dayton Road and one-half mile north of the town of West Chester. The Skinner property is comprised of roughly 78 acres of hilly terrain and is bordered on the south by the East Fork of Mill Creek, on the east by railroad tracks, and on the west by the Cincinnati-Dayton Road. Agricultural and wooded land lies south of the site, across the East Fork of Mill Creek. Three ponds and three creeks are located on or adjacent to the Skinner property. The nearest residential area located within the vicinity of the landfill lies to the west, along the Cincinnati-Dayton Road and along the access road to the site. The Union Elementary School is also located on the Cincinnati-Dayton Road, across from the site access road.

The property has been in the Skinner family since the 1940s. It is known that the Skinner family accepted various types of waste from at least 1955. From 1963 to 1976, residents near the site periodically contacted the Butler County Board of Health and Southwestern Ohio Air Pollution Control Agency (SWOAPCA) with complaints about heavy smoke coming from the site. When officials responded to a reported fire at the site in 1976, they noticed a lagoon containing a black, oily liquid. Officials returned with a search warrant and found over one hundred 55-gallon drums reportedly containing industrial and chemical wastes. Mr. Skinner is reported to have told them that the landfill contained buried mustard gas, nerve gas, and various explosive devices. Since the landfill area has never been excavated, the claims Mr. Skinner reportedly made that day have never been confirmed. OEPA and U.S. Army officials returned to the site to inspect and sample the lagoon area. The samples were found to contain pesticides, some volatile organic compounds, and heavy metals.

Between August 1977 and January 1979, the OEPA and the Ohio Attorney General's Office tried repeatedly to obtain a court order requiring the Skinners to remove the wastes disposed of on the site. The court rejected those requests but ordered the Skinners to stop all disposal activities unless granted permission by the OEPA and the Butler County Board of Health. In 1982, the Skinner property was placed on the **National Priorities List (NPL)** of sites needing to be investigated and cleaned up. The initial phases of a **Remedial Investigation and Feasibility Study (RI/FS)** began in September 1984. By 1987 the U.S. Environmental Protection Agency and its contractors completed Phase I of the Remedial Investigation, and the report was issued in December 1988. U.S. EPA initiated Phase II of the RI and the FS in January 1989. The completed RI has determined the extent of

contamination. The Baseline RA has examined current and future risks from the site, and the FS has identified and compared five potential remedial action alternatives for the Skinner Landfill site.

THE REMEDIAL ACTION PROCESS AND YOUR ROLE IN IT

U.S. EPA is required by law to publish the reports resulting from the RA and RI/FS and make them available for public review and comment. This is required by Section 117(a) of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** or "Superfund" as it is also known. Before issuing its **Record of Decision (ROD)** about how the site contamination will be addressed, U.S. EPA will hold a public meeting and public comment period to accept comments from residents, public officials, agency representatives, and other parties interested in the site. U.S. EPA, in consultation with other agencies or its contractors, may then modify the recommended alternative or select another alternative based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here. Please refer to page 7 of this fact sheet for more information about how you can give your input. To obtain more detailed information concerning the site, the public may review the Administrative Record. Please see the section titled "Information Repository" on page 7 of this fact sheet.

SUMMARY OF PHASE II OF THE REMEDIAL INVESTIGATION

U.S. EPA and its contractors identified the nature and extent of contamination by collecting and analyzing samples of soil, ground water, sediment, and surface water. They also examined the site geology and ground water flow patterns. The complete results of Phase II of the Remedial Investigation are contained in the RI report, which was issued in May 1991. The RI produced a number of key findings:

- ☐ The infiltration of rain and snow into the glacial sediments provides the majority of ground water recharge at the Skinner site. The infiltration of water through the landfill and buried waste lagoon has migrated to the ground water which subsequently discharges to the East Fork of Mill Creek.
- ☐ There are four major areas of concern. A buried waste lagoon/landfill is the most significant area of concern; other areas include the buried pit, an area near the metal storage area and an area located near the East

Fork of Mill Creek which will also require remedial attention. The buried waste lagoon has been identified as the most significant source of soil and ground water contamination. However, the physical base of the waste lagoon appears to be located entirely above the current water table. Contamination extends approximately 25 feet into the natural soils below the debris, but it is hindered by more compact sediments that prevent further downward migration. Nevertheless, contamination has migrated downward into ground water which subsequently discharges to the East Fork of Mill Creek.

- ☐ Chemical compounds detected in the buried waste lagoon and around the site include VOCs, SVOCs, pesticides, metals, PCBs, dioxins, and furans. Some of these compounds, except for VOCs, however, are largely immobile, bind tightly to clay-like soils, and have a low solubility in water.
- ☐ The laboratory analysis of water samples collected from Duck Pond and Dump Creek did not reveal significant amounts of contamination. Water samples collected from the Trilobite and Diving Ponds contained low concentrations of pesticide and other compounds.
- ☐ There is limited potential for the contaminants to migrate off-site. The identified routes for off-site migration involve leaching and ground water migration from the buried waste lagoon, and surface water migration via the East Fork of Mill Creek and Skinner Creek.

SUMMARY OF SITE RISKS

The risk assessment process is a means of statistically approximating the possible risk levels (not necessarily actual risk levels) at a site. Those risks can be effectively compared with state and federal standards and with acceptable health-based risk levels at other sites. The risk assessment demonstrated that, at the Skinner Landfill site, the greatest cancer risks associated with current exposures are from impacted soils at the site. The greatest cancer risks associated with future exposures may result from the waste lagoon and site-wide soils, ground water, and Mill Creek surface water. Similarly, the greatest current potential non-cancer health effects may result from exposures to the waste lagoon, site-wide soils, and ground water. The greatest future non-cancer health effects may result from exposures to the waste lagoon and site-wide soils, ground water, and Mill Creek surface water. It should be noted that the estimates of future exposures are based on hypothetical assumptions about the potential uses of the site and about the effect of various cleanup measures. U.S. EPA is undertaking action at the Skinner Landfill site because these statistical risk estimates exceed acceptable state and federal standards.

THE FEASIBILITY STUDY: EVALUATING THE CLEANUP ALTERNATIVES

As an integral part of the remedial action process, the FS seeks to identify and evaluate various cleanup strategies that will protect the public health and the environment in a manner that is safe, practical, and acceptable to those concerned with the site. Regardless of which remedial alternative U.S. EPA ultimately chooses, the remedy will achieve two objectives: (1) reduce and control the movement of contaminants from the buried waste lagoon, buried pit, and other areas to the ground water, surface water, soil, and air; and (2) manage leachate seeps in order to protect nearby creeks and ponds, as well as the people who may come in contact with them. The FS for the Skinner Landfill site has identified five separate remedial alternatives which are described below.

ALTERNATIVE 1:

No Action

CERCLA requires that the "No Action" alternative be considered as a basis upon which to compare the other alternatives. If no action were taken to clean up the site, soil contaminants would likely continue leaching into the ground water, and ground water flow would carry those contaminants to ponds, creeks, and domestic water wells located on or near the site. This alternative, therefore, would not adequately protect either human health or the environment.

ALTERNATIVE 2:

Removal and On-Site Treatment of Buried Waste Lagoon Soils; Site Capping; Collection and Aboveground Treatment of Ground Water

Alternative 2 calls for excavating the most contaminated contents of the buried waste lagoon and incinerating them on-site to destroy the contaminants. Depending on the characteristic of the treated soils and sediments, they may then be solidified with cement, cement kiln dust, or hydrated lime in order to minimize the potential for metals to leach from the soils. In addition, a lining would be installed at the base of the excavation after the soils had been removed. This would prevent future leachate migration. The stabilized soils would then be put back into the excavation and consolidated underneath a multi-layered landfill cap, the incinerator and cap will be designed to meet the stringent federal standards for hazardous waste disposal facilities.

Ground water on the site would be collected and treated using a carbon adsorption process that removes organic contaminants. The treated water would be tested to ensure its quality and then discharged to surface water. Fencing would be installed at the site boundaries to restrict access to the site. Some citizens living on or near the site would be connected to city water supplies, thus eliminating their

How Does U.S. EPA Evaluate Cleanup Alternatives?

By answering the following questions, U.S. EPA forms the basis for selecting the final cleanup plan at Superfund sites.

Overall Protection of Public Health and the Environment: Will a particular remedy provide adequate protection of human health and the environment? Will the risks posed through each exposure pathway be eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls?

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Will a particular remedy meet all of the ARARs of federal and state environmental laws and, if not, does it justify a waiver?

Long-Term Effectiveness and Permanence: What will the remaining risk be once the cleanup goals have been met? Will the remedy maintain reliable protection of human health and the environment over time?

Reduction of Contamination Toxicity, Mobility, and Volume Through Treatment: What is the anticipated performance of the treatment technologies under a particular remedy?

Short-Term Effectiveness: How long will it take to achieve protection, and what will be the risk to human health and the environment during the construction and implementation period?

Implementability: What is the technical and administrative feasibility of a particular remedy, including the availability of materials and services needed to implement it?

Cost: What will be the estimated initial capital cost and the cost of operation and maintenance? The total cost is expressed as a present value cost.

State/Support Agency Acceptance: Will a particular remedy meet with state or agency approval or will portions of the remedy meet with opposition? Will a proposed remedy meet all state ARARs or will proposed waivers be accepted?

Community Acceptance: What is the public's general and written response to the alternatives described in the Proposed Plan and in the R/VFS? An evaluation of this criterion cannot be completed until after the public comment period is held.

need to use local ground water for domestic purposes. Alternative 2 would meet most of the state and federal requirements for protecting human health and the environment. Excavation of the buried waste lagoon may pose some short-term risks, particularly from the volatilization of contaminated soils exposed to the atmosphere. However, these risks are manageable by limiting the area of excavation, engineering controls, and site security. Additionally, state and federal permitting requirements for an on-site incinerator would be extensive and would require many months of field tests and document submittals. Based on a 30-year operating life, the net present value cost of Alternative 2 would be approximately \$28,700,000.

ALTERNATIVE 3:

Consolidation and Multi-Layer Capping of Soils; Collection and Aboveground Treatment of Ground Water
Alternative 3 calls for all impacted soils and sediments from the site to be consolidated beneath a landfill cap similar to that described in Alternative 2. However, this alternative does not call for excavating and incinerating large quantities of contaminated soil and materials from the buried waste lagoon. Rather, the site would be regraded to consolidate the materials and accommodate the landfill cap. The regrading would require moving 15,000 cubic yards of soil, possibly volatilizing some contaminants. However, the volatilization should be considerably less because the surface soils are not as contaminated as those buried in the landfill. Ground water would be collected and treated using the same process described under Alternative 2. Providing nearby residences with an alternate water supply would prevent the potential use of impacted ground water. Alternative 3 carries with it some benefits and drawbacks. Since this alternative calls for leaving most of the impacted soils in place, leaching of contaminants from the soil to the ground water may continue indefinitely, although it would be minimized with the landfill cap. Alternative 3 would provide less short-term risk to on-site workers and the community residents since it does not involve large-scale excavation. The present value cost for Alternative 3 is estimated to be \$15,500,000.

ALTERNATIVE 4:

Consolidation and (Sanitary Landfill) Capping of Soils; Collection and Aboveground Treatment of Ground Water
Alternative 4 differs from Alternative 3 only in the type of landfill cap that would be installed over the site. Under Alternative 4, the site would be capped with a clay cap constructed in accordance with the State of Ohio construction specifications for solid waste landfills. The engineering controls used to minimize potential exposure (i.e., the landfill cap and the ground water collection and

treatment system) are expected to be both adequate and reliable, although the site cap proposed under this alternative is not as protective as a multi-layer cap. The present value cost of implementing Alternative 4 would be about \$14,800,000.

PREFERRED ALTERNATIVE

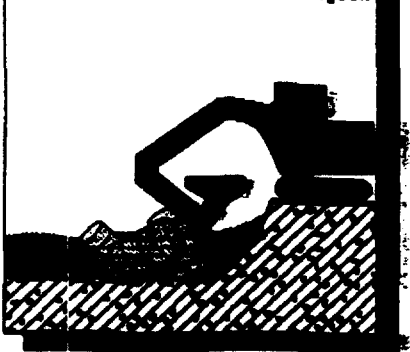
ALTERNATIVE 5:

Excavation and On-Site Treatment of Buried Waste Lagoon Soils; Site Capping; Soil Vapor Extraction; Collection and Aboveground Treatment of Ground Water
Alternative 5 incorporates many of the elements of Alternatives 2, 3, and 4. This approach would involve excavating, incinerating, and solidifying soils from the buried waste lagoon. The treated soils would then be re-deposited in the excavated site along with impacted soils, sediments, and materials from other areas of the site. This

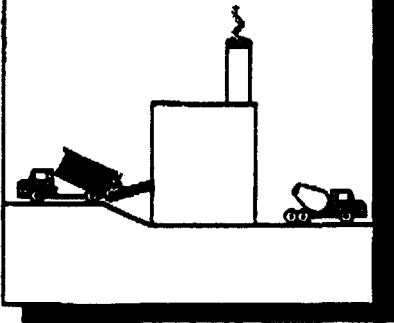
area would then be capped with a multi-layer, hazardous waste cap. Alternative 5 differs significantly from each of the other alternatives in that soil vapor extraction (SVE) would be conducted to remove remaining volatile organic contaminants from the soils in the landfill. The soil vapor extraction system draws air containing VOCs to the surface, where the air is treated to remove the contaminants. Over the long-term, Alternative 5 and its three treatment systems (i.e., soil incineration, ground water treatment, and soil vapor extraction) would be the most effective in reducing the toxicity, mobility, and volume of contaminants on the Skinner site. As discussed with Alternative 2, excavation of the buried waste lagoon may pose some short-term risks, particularly from the volatilization of contaminated soils exposed to the atmosphere. However, these risks are manageable by limiting the area of excavation, engineering controls, and site security. Additionally, the permitting process for the incineration system would be lengthy as described under Alternative 2. The present value cost of Alternative 5 is estimated to be \$29,000,000.

The Preferred Remedial Action Process

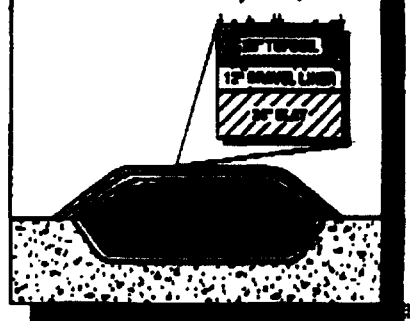
1. Excavate the Buried Waste Lagoon



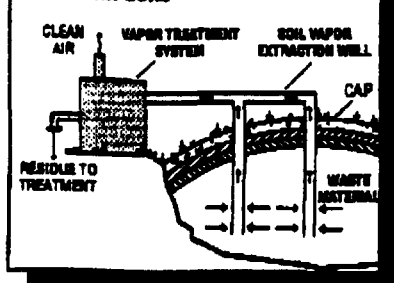
2. Incinerate and Solidify Excavated Materials



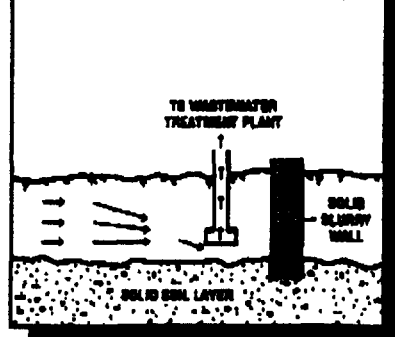
3. Re-deposit Materials and Construct a Multi-Layer Cap



4. Conduct Soil Vapor Extraction (SVE) to Remove VOC's from the Landfill Soils



5. Collect and Treat Ground Water



GLOSSARY OF TERMS

Applicable or Relevant and Appropriate Requirements (ARARs): Federal and state environmental requirements that a selected cleanup remedy will attain. These requirements include allowable air emissions and allowable levels of contaminants in site soils, sediment, water, etc.

Carbon Adsorption: A process of removing organic contaminants from water by passing that water over porous granules of activated carbon. Organic compounds are attracted to the surface of the pores (i.e., "adsorbed") and are held there by physical forces.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): This law, widely known as "Superfund," authorizes the Federal government to respond directly to releases of hazardous substances that may endanger public health or the environment. U.S. EPA is responsible for managing this program.

Leachate: A liquid, usually derived from rain or snow, that has soaked through wastes and picked up components of those wastes. Leachate can seep into the ground water.

National Priorities List (NPL): U.S. EPA's list of sites of environmental contamination that are eligible for federal money under the Superfund program.

Polychlorinated Biphenyls (PCBs): A group of organic compounds related by their basic chemical structure. They were widely used in electrical capacitors, transformers, and other products in the U.S. before 1980.

Record of Decision (ROD): An official document issued after the Remedial Investigation and Feasibility Study that describes U.S. EPA's selected remedy for cleaning up a site.

Remedial Alternatives: A method or combination of methods designed to protect public health, welfare, and the environment over the long term from releases of

hazardous substances at a Superfund site. Remedial alternatives are usually projects or a combination of technologies that contain, remove, or destroy most of the contaminants in the air, water, soil, and/or ground water at a Superfund site.

Remedial Investigation/Feasibility Study (RI/FS): Two distinct, but related, studies conducted as part of the Superfund cleanup process. The first study is the Remedial Investigation (RI) which examines the nature and extent of contamination problems at the site. The second is the Feasibility Study (FS), which evaluates different methods to clean up the contamination problems found during the remedial investigation.

Risk Assessment (RA): A statistical evaluation of the potential health effects associated with the types, concentrations, and locations of contaminants identified at a site. The risk assessment attempts to predict the probability of adverse effects to human health under specific present circumstances and under hypothetical future circumstances.

Semi-Volatile Organic Compounds (SVOCs): Chemical compounds that evaporate in air at a slower rate than volatile organic compounds.

Soil Vapor Extraction (SVE): A pumping system using underground pipes that draws air through contaminated soil to remove organic contaminants. The contaminated air is treated and released into the atmosphere or returned to the system.

Present Value Cost: The amount of money that would have to be invested (assuming a 5% interest rate after inflation) at the beginning of a cleanup to pay for the entire cleanup, including the yearly operation and maintenance (O&M) costs.

Volatile Organic Compounds (VOCs): Organic chemicals such as toluene, vinyl chloride, trichloroethylene (TCE), and benzene that vaporize easily.

FOR MORE INFORMATION**U.S. EPA Contacts**

Sheila Sullivan
Remedial Project Manager
U.S. EPA
(HSRM-6)
77 West Jackson Blvd
Chicago, IL 60604-3590
(312) 886-3251

Cheryl L. Allen
Community Relations Coord.
U.S. EPA
(P-19)
77 West Jackson Blvd
Chicago, IL 60604-3590
(312) 353-6196

Ohio EPA Contacts

Mark Lehar
Site Coordinator
Ohio EPA
SW District Office
40 S. Main Street
Dayton, OH 45402-2086
(513) 285-6057

Jane Taft
Public Involvement Coordinator
Ohio EPA
1800 WaterMark Drive
PO Box 1049
Columbus, OH 43266
(614) 644-2160

INFORMATION REPOSITORY

Information repositories contain laws, work plans, community relations, plans, and other documents about the investigation and cleanup of Superfund sites. Anyone who would like additional information about the Skinner Landfill site is encouraged to read the documents available at the Information Repository. Ask for the Skinner Landfill Superfund Information Repository at:

Union Township Library
7900 Cox Road
West Chester, Ohio 45069
(513) 777-3131

Hours: 10 am - 8:30 pm (M-F)
10 am - 5 pm (Sat.)
1-5 pm (Sun. Winter only)

PUBLIC COMMENT INVITED

Comments provided by residents and other interested parties are valuable in helping U.S. EPA select a final cleanup plan for the site. U.S. EPA encourages you to share your views about the recommended cleanup plan and the other alternatives presented in the Feasibility Study. You can make your views known to U.S. EPA in one of two ways:

1. You may send written comments to Cheryl Allen, the Community Relations Coordinator for the Skinner Landfill site. You can use the public comment sheet provided as part of this fact sheet or address a letter to her at the address listed above.
2. You may present oral comments to U.S. EPA representatives during the public meeting at 7:00 pm on May 20, 1992, at the Union Township Hall. A court reporter will be present to record oral comments. You may also submit written comments at this meeting.

U.S. EPA will respond to all significant comments in a document called a Responsiveness Summary. The Responsiveness Summary will be attached to the Record of Decision and will be made available to the public in the Information Repository and Administrative Record file. The Remedial Investigation Report, the Feasibility Study, and other documents related to the Skinner Landfill site are available at the Information Repository described in this fact sheet.

The Superfund law requires U.S. EPA to provide the public with the opportunity to submit written and oral comments concerning the remedial investigation and the cleanup alternatives.

MAILING LIST REQUEST FORM

If you are not currently on the Skinner Landfill Superfund site mailing list and would like to be added, please complete this form, detach, and mail to:

Cheryl L. Allen
Community Relations Coordinator
Office of Public Affairs
U.S. EPA, Region 5
77 West Jackson Blvd.
Chicago, IL 60604-3590

Dear Ms. Allen:

Please place my name on the Skinner Landfill site mailing list.

Name _____

Affiliation _____

Address _____

City _____ State _____ Zip _____

Telephone (_____) _____



United States Environmental Protection Agency
Region 5
Office of Public Affairs (P-19J)
77 West Jackson Blvd.
Chicago, Illinois 60604



Printed on Recycled Paper

U.S. EPA Welcomes Your Comments On The Cleanup Of The Skinner Landfill Site

The U.S. Environmental Protection Agency welcomes your input regarding the cleanup of the Skinner Landfill site. If you have any comments, questions, or concerns regarding the information presented in this fact sheet, please record them on this form and send it to U.S. EPA. You may attach additional sheets if necessary. Comments must be postmarked by May 27, 1992. You may also call either Cheryl L. Allen, the Community Relations Coordinator, or Sheila Sullivan, the Remedial Project Manager, toll-free at 1-800-621-8431.

Signature: _____
Name: _____
Affiliation: _____
Address: _____
City: _____ State: _____ ZIP: _____

Fold on dotted lines, close with transparent tape, and mail.

Name _____
Address _____
City _____ State _____
Zip _____

Place
Stamp
Here

CHERYL L ALLEN
COMMUNITY RELATIONS COORDINATOR
U S ENVIRONMENTAL PROTECTION AGENCY
77 W JACKSON BLVD
CHICAGO IL 60604-3590